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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,902	03/26/2004	Makoto Miyamoto	YMOR:197A	7694

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EXAMINER	
WATKO, JULIE ANNE	

ART UNIT	PAPER NUMBER
2653	

DATE MAILED: 04/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/809,902	MIYAMOTO ET AL.	
	Examiner	Art Unit	
	Julie Anne Watko	2653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 February 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-6 and 8-13* is/are pending in the application.

4a) Of the above claim(s) *8-13* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *2-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *03/17/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Applicant cannot rely upon the foreign priority papers to overcome any rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 2 is rejected under 35 U.S.C. 102(e) as being anticipated by Boutaghou (US PAP No. 2002/0054455 A1).

As recited in claim 2, Boutaghou shows a disk drive system (see Figs. 2-3, for example) comprising: an actuator 214 having a head arm (224 and 226) mounted with a slider 228 having a head element for recording data in a disk recording medium 213 and reading the recorded data; means (including ramp 230) for unloading said head arm to a parking position and loading said head arm from said parking position such that said slider comes close to a surface of a disk recording medium; an inertial arm 250 rotatably supported for engaging said actuator when said head arm is in or near said parking position (see Fig. 3, which shows that said head arm is in a parking position, and shows that inertial arm 250 engaging the head arm) and releasing the engagement with said actuator when said head arm is in or near a position close to a disk

recording medium (see Fig. 2, which shows that said head arm is near (but not in) a position close to the disk, and shows that inertial arm 250 is released); and energizing means 255 for holding a position of said inertial arm in a position where the engagement with said actuator is released ("to hold the lock in its open position, which allows free rotation by the actuator", see ¶ 0029; see also Fig. 2), wherein said actuator ("Actuator 214 is typically a **balanced** rotary voice coil motor", see ¶ 0027, emphasis added) and said inertial arm ("inertial lock 250 is a rigid body, rotationally **balanced**", see ¶ 0029, emphasis added) have balanced mass with respect to respective centers of rotation.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boutaghou (US PAP No. 2002/0054455 A1) in view of Mastache (US Pat. No. 5528437).

As recited in claim 3, Boutaghou shows engaging part 252 and centers of rotation (215 and 256).

As recited in claim 3, Boutaghou is silent regarding whether a ratio of inertia of said actuator and said inertial arm is equal to a ratio of a distance from the center of rotation of said actuator to an engaging part and a distance from the center of rotation of said inertial arm to the engaging part.

As recited in claim 3, Mastache shows that a ratio of inertia of an actuator 5 and an inertial arm 9a is equal to a ratio of a distance from a center of rotation 5d of said actuator to an engaging part (see 5e1) and a distance from the center of rotation 9a1 of said inertial arm to the

engaging part (see col. 6, line 35, which disclose $I_B=I_A(L_1/L_2)$ wherein the I values are moments of inertia and the L values are distances from center of rotation to the engaging part).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the disk drive of Boutaghou with the ratios taught by Mastache. The rationale is as follows: one of ordinary skill in the art would have been motivated to make forces balance so that rotation is zero, such that without the addition of external control over the balanced rotary actuator latch and the use only of the forces resulting from rotary acceleration of the disk drive support caused by rotary shock, the rotary actuator arm assembly is retained in latched or parked position as taught by Mastache (see col. 6, lines 2-11).

6. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boutaghou (US PAP No. 2002/0054455 A1) in view of Campbell (US Pat. No. 4692829).

As recited in claim 4, Boutaghou shows a disk drive system comprising: an actuator having a head arm mounted with a slider having a head element for recording data in a disk recording medium and reading the recorded data; means for unloading said head arm to a parking position and loading said head arm from said parking position such that said slider comes close to a surface of a disk recording medium; the inertial arm rotatably supported for engaging said actuator when said head arm is in or near said parking position, and for releasing engagement with said actuator when said head arm is in or near a position close to a disk recording medium.

As recited in claim 4, Boutaghou is silent regarding a wind receiver for receiving a force of air flow produced by rotation of a disk recording medium, the wind receiver oriented for

replying such force to the inertial arm in a direction away from engagement with the actuator for maintaining the inertial arm in a released state.

As recited in claim 4, Campbell shows a wind receiver 34 for receiving a force of air flow produced by rotation of a disk recording medium (see Fig. 1), the wind receiver oriented for replying such force to a latch arm (see 52) in a direction away from engagement with the actuator for maintaining (insofar as the released state persists until a power down sequence, see col. 5, lines 47-49, "airflow becomes insufficient to deflect the airvane portion 34 during the power down sequence") the inertial arm in a released state.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add an air vane to the inertial latch arm of Boutaghou as taught by Campbell. The rationale is as follows: one of ordinary skill in the art would have been motivated to add the air vane to the inertial arm in order to reliably release the latch during operation of the drive as taught by Campbell and as is notoriously well known in the art.

Regarding claim 5: See Boutaghou's teachings stated above for claim 2.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boutaghou (US PAP No. 2002/0054455 A1) in view of Campbell (US Pat. No. 4692829) as applied to claims 4-5 above and further in view of Mastache (US Pat. No. 5528437).

Regarding claim 6: See teachings, rationale and motivation for combining teachings above for claim 3.

Response to Arguments

8. Applicant's arguments filed February 11, 2005, have been fully considered but they are not persuasive.

On page 13, last paragraph, Applicant states that "The Office Action admits that Boutaghou '455 does not disclose an inertial arm and actuator having a balanced mass with respect to respective centers of rotation, and cites Mastache '437 as allegedly teaching same." It is noted by the Examiner that the office action mailed November 26, 2004, on page 4, explicitly cites Boutaghou's teaching that the inertial arm has balanced mass with respect to its center of rotation ("inertial lock 250 is a rigid body, rotationally balanced", see ¶ 0029 of Boutaghou). Furthermore, upon closer consideration of Boutaghou, the Examiner notes that Boutaghou also teaches an actuator balanced with respect to its center of rotation ("Actuator 214 is typically a balanced rotary voice coil motor", see ¶ 0027 of Boutaghou).

On page 14, 1st full paragraph, Applicant comments "when the head arm is in or near a position close to the disk recording medium (i.e., not in or near a parking position), its engagement is not released from the actuator". The Examiner disagrees with Applicant's interpretation of the limitation "in or near a position close to the disk recording medium". It appears from Applicant's comment that Applicant believes that it is impossible for a head arm to be simultaneously near a position close to a disk recording medium and in or near a parking position. The Examiner, giving the words of the claims their broadest reasonable interpretation, finds that, when the head arm is in a parking position, the head arm is also near a position close to the disk recording medium. Thus, all claim limitations are met by the reference.

Applicant's arguments regarding claim 4 have been fully considered but are moot in view of the new grounds of rejection.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie Anne Watko whose telephone number is (571) 272-7597. The examiner can normally be reached on Tues. & Thurs. until 9PM, Wed. & Fri. until 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Julie Anne Watko
Primary Examiner
Art Unit 2653

April 23, 2005
JAW